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ABSTRACT

Examined in the paper is the relationship between differential diagnosis and educational programing for children with learning disabilities. Three components of differential diagnosis are explained to be classification, measurement of the child's strengths and weaknesses, and evaluation of academic skills which have been mastered. Beginning reading skills are analyzed, and the roles of psychology and education in learning disabilities are discussed. (CL)

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EXPLORING PROGRAMMING FOR THE LD CHILD

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In speeches around the country and in my own situation at the Groves Learning Center in the Twin Cities area, the question which I am most frequently asked is WHY? Why, in a classroom situation, in which other children learn as we would expect, are there children, these LD children, who fail to thrive educationally? Or, stated another way, what is it about these children which causes them to learn differently?

Is it because of low motivation and lack of interest? Yes, for some.

Is it because of inadequate teaching? Yes, for some.

Is it because of a failure to match the teaching method to the needs of the learner? Yes, for some.

Is it because teachers are inadequately trained to meet the complex demands of special learning needs or styles? Yes, for some.

Is it because the special learning style of the student requires complex diagnostic and educational techniques which are not always available? Yes, for some.

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Is it because of reasons which we do not yet understand? Yes, for some.

In order to give you some idea of the complexity of the learning process which characterizes the LD child, I participated in a research project which identified 40 factors which can cause or be related to learning disabilities in children. Not only these 40 factors, but any combination of these components can be involved. This means that there are 1 trillion, 99 billion, 511 million, 627 thousand combinations of possible causes of learning disabilities in children.--One trillion, 99 billion, 511 million, 627 thousand possible answers to the question - WHY?

What I would like to do in the remaining time is to discuss each of these 1 trillion, 99 billion, 511 million, 627 thousand combinations with you, to indicate how each is diagnosed and to explore the programming implications with you. Of course, I can't. But what I can do is discuss several general premises with you and indicate what are, to my mind, the bench marks of effective programming for the LD child.

WHAT LEARNING DISABILITY IS NOT

Before discussing what learning disability is, it would be helpful to set the stage by stating my biases about what learning disability is not, since in no other field have we encountered professional denial with greater frequency than in learning disabilities. For example, some would say, "Since there are so many reasons for learning disabilities, there are no such things as learning disabilities." This is a confusion in concept as well as a confusion in logic, and we should avoid it no matter how provocative or educationally face saving such a position might be.

LD is not the new name for mental retardation.

LD is not the latest educational term for kids who are lazy, disinterested, unmotivated or "turned off and tuned out."

LD is not a convenient excuse for instructional or administrative underachievement or laxity.

However, learning disability is also not a diagnosis. It is not a clinical or educational category. It is a presenting complaint. In short, children come to us because someone else, usually parents or classroom teacher, has already discovered that they are unable to learn under ordinary conditions of classroom instruction. To translate this fact by putting a Greek negative in front of it, calling it a dis-ability which means painful ability or inability to learn, in no way further extends the diagnosis.

Sam Kirk tells the story of the boy who was sent to the psychologist for testing by his teacher. The psychologist asked the boy, "How did you like those tests we gave you yesterday?"

Boy: "I didn't like them because I can't read so good."

Psychologist: "Well that's why we gave you the tests...to find out why you coudn't read."

Boy: Did you find out?"

Psychologist: "Yes, we found out. You have dyslexia."

Boy: "Dyslexia? What's that? Is it a bad disease? Am I going to die?"

Psychologist: "Oh no, it's not a disease, it's a condition. It's a condition of the brain."

Boy: "Brain? Is something wrong with my brain? Am I nuts?"

Psychologist: "No, it just means that you haven't learned to read."

Boy: "Oh, that's what my teacher said. I can't read so good."

To say that a student has dyslexia is merely to repeat the presenting complaint in jargon, not to pursue a differential diagnosis of the source of the problem.

Differential diagnosis, generally although not exclusively considered to be the province of those professions supportive to education--psychology, speech and language pathology, reading, social work and medicine--is the first step on the treatment path and should proceed on three levels in order to present a complete and useful picture for educational help or remediation. If any of these three components is missing, the diagnostic picture is incomplete to that degree. The three components are these:

1. Classification--a determination of the extent and degree to which this child deviates from age or sex mates in critical capacities. Procedures such as intelligence tests, achievement tests, developmental histories, reading, math and spelling tests and social maturity indexes are examples of diagnosis for classification. The question to be asked is, "Does this child's abilities and capacities deviate from those of his peers and, if so, to what degree?"

2. Individual strengths and weaknesses--the second area of differential diagnosis involves a profile of the individual child's unique areas of strength and weakness. Such procedures as the ITPA, Key Math Test, Detroit Test of Learning Abilities, reading analysis, phonetic and language analysis, case history and interview provide answers to the second

diagnostic question--"What are the components of this child's unique learning style?"

3. Mastery of the scope and sequence of the curriculum. The final component of a complete differential diagnosis is a measurement of the acacemic skills, in minute and exacting detail, which have been mastered and which remain to be taught. This testing, called criterion-referenced testing, poses the question, "Which objectives of those which make up the scope and sequence of reading or math have been mastered and which remain to be taught?

Therefore, diagnosis for classification tells us who the LD child is; diagnosis of individual strengths and weakness tells us how he learns and the mastery of scope and sequence tells us what the LD child should be taught.

This type of differential testing naturally issues forth into an educational plan of action.--A remedial plan which is diagnostically sound, educationally relevant, and individually appropriate to the child's unique learning characteristics.

This is differential diagnosis, not merely testing, and is thereby a useful, appropriate in-depth diagnosis, distinctly different from the testing system caricatured in this poem:

IN A GREAT LARGE FILE

"We've a splendid testing system. If you'd like it, I shall list 'em,"
Said the city superintendent with a holy little smile.
"We measure kids and test kids to see what things infest kids.
Then repeat the process every little while.

"We give grammar tests and hammer tests and also katzenjammer tests,
And German tests, and vermin tests, the best we can compile.
Appreciation, condensation, information, lucubration,
To say nothing of vocation - oh, a tall, tall pile.

"Our tests are often mental, but they may be merely dental
Or sometimes environmental, (about the domicile).
Versatility, ability, then utility, debility -
With indefatigability we choose the latest style.

"Constitution, restitution, home pollution, destitution,
Go-to-college, moral knowledge - just wait a little while;
Aptitudes and attitudes but seldom the beautitudes,
For measurement of platitudes serves only to beguile.

"Physiology, sociology, entomology, and geology,
For present-day psychology says these things we should compile;
Metaphorical and clerical, historical, hysterical
Our tests are quite numerical, and very much worthwhile.

"Spelling tests and yelling tests - no, I'm not selling tests,
But schools that seldom use them are very, very vile.
We give our tests, record our tests (I wish we could afford more tests)
And I keep them, keep them, keep them - in a great, large file."

(Courtesy Guidance Service, Charleston, WV, State Dept. of Education)

READING AND LEARNING DISABILITIES

Why, then, is this differential diagnosis necessary? Why is it that learning disabled children require unique approaches to the mastery of certain formal learning skills, the most frequent of which is reading. Why cannot these children learn to read? They cannot learn to read, in part, for reasons that are related to the nature of reading as a task.

We have not analyzed to any great extent the demands that learning to read make on a human being. We have not done so because those of us who can read easily do not understand how complex the reading task actually is, and thus we develop all sorts of cliches, shibboleths, or strange notions about why a child is not able to learn to read.

Let us briefly look at what the reading task consists of. In the first place, in order to learn, you must be obedient, and if you are not obedient, you will not learn to read. What do I mean by obedient? Reading requires that you use formal patterns of search which are in violation of an intelligent search pattern. You are taught that when you read you start on the left; if you are reading Hebrew you start on the right; or if you are reading yet another language, you start above. Then you go down or you go across. When you get to the end of that particular block you go back; you do not look back, but you start again. If at the four-year-old level on the Stanford-Binet test you ask a child to find a ball in a field, and he did it in this particular manner, you would score him wrong on this test item because this is not the way in which one should search.

If you are to read, you must obey a rule, you must play a game, you must adopt a game functioning attitude. For the purpose of this particular game, you must play it one way, and if you cannot follow this rule, or if you are resistant to rule following, or if you have impulses which are ill-controlled and which do not permit you to follow this rule, then you are in a disasterous situation. Similarly, you cannot follow these rules if you have certain kinds of neurologic impairment, such as have been demonstrated for some children who

present with disorders of reading. If the child is dominated by outside stimuli rather than by the rule which he is to follow, he moves according to these stimuli and does not move according to the rule.

The second task necessary in order to learn to read in any of the Latin languages, or, for that matter, in any language written in phonetically organized symbol systems, requires the acceptance of a situation in which an arbitrary set of squiggles has a certain sound value. For instance, let us look at one arbitrary squiggle such as the letter w. If one turns it around, it becomes an m. Why does that squiggle say whuuu, when it is arranged one way and mmmmm when it is another? There is no logical reason for this at all, but it is an arbitrary matter based upon the ease with which a stylus could cut clay, or a chisel could cut stone. It is not based on any physiognomic relationship between the visual symbol, a grapheme, and the sound organization, a phoneme. Since there is no systematic relationship between these, the individual must arbitrarily accept that these squiggles, when they are in particular positions in space, have particular sound meanings. For example, if the squiggle that is an N is rotated 90 degrees, it becomes a Z.

Let us examine this from a somewhat different standpoint. I am holding a pipe in my hands. No matter from which angle it is examined, it always remains a pipe. Not so with letters. Depending on their spatial configuration, they might represent a d, a p, a b, or a q. In short, the whole of one's developing experience with respect to object stability must be violated. Thus, the child must be in a stage of his development where he can consider shape independently of its position in space and can integrate shape with spatial position and recognize that these arbitrary relationships have particular sound values. We see this kind of problem again and again: if children have problems in discrimination among shapes or if they have problems in utilizing a Cartesian coordinate system with respect to their environment and of integrating this with visual information as occurs in diffuse as well as minor degrees of cerebral dysfunction, you produce an individual for whom this task is utterly demanding, complex, and even impossible.

Still other demands are made of the potential reader. We have contradictions in rules, which, for children who are plagued with certain degrees of rigidity, become overwhelmingly difficult problems. These children cannot accept contradictions. To give you an example, I write the word r-a-t, and I tell the child that you read this word going from left to right. He reads it and the word says rat. Now I write the word r-a-t-e and I tell him again that you read by going from left to right. But this time this is not true; it is a lie. That is not what you do at all. When there is a terminal e in a word, or in some words, not in every word, you modify the antecedent vowel and

make it a hard vowel, and, therefore, in order to pronounce the a sound in the word r-a-t-e, you must read the e at the end which naturally modifies your sequence. You must scan the word first to see if there is a terminal e, and then modify your middle vowel sound to correspond to the peculiar signal that was received.

By now you are reaching a point where you should recognize that you could not possibly have learned to read.

Once you begin to analyze the behavioral demands of the reading task, you can understand the complexities, even though I have just skimmed the surface. I have not spoken at all about understanding; I have not spoken about the degree to which reading communicates thought; I haven't spoken about whether the child's reading agrees with his experience; I have not discussed whether the teachers share ethnicity with the child. By simply looking at the elementary demands of the task itself you can understand that children could easily not learn to read under ordinary conditions of instructions. If they have difficulties in figural perception, if they have difficulties in rule following, if they have difficulties in resolving conflictual rule structures in the presentation of information, if they have difficulty in body image, in their relation of themselves to space, and the relation of visual form to these images, they will encounter problems when attempting to learn to read. It is these elemental systems which are most likely affected by a wide variety of insults to the nervous system.

PSYCHOLOGY AND LEARNING DISABILITIES

Chief among the disciplines which has sought to be of aid to parents and teachers by providing an answer to the question--What can be done? is psychology. Let us consider the possible contributions of psychology. Psychology does not possess a magic solution which can be spread upon the problems of children with learning disabilities, nor can it tell how children with disabilities should be taught. In 1901, William James, the father of American psychology, gave an address to teachers and said, "Teachers, do not look to psychology for the techniques and strategies which you can successfully employ in the instruction of children. Psychology doesn't have them. It has principles with respect to the laws of behavior. It can, through analyzing the creative strategies you advance, define whether they are in contradiction to these laws or not, and in that sense place a limit, a useful limit, on your creativity, but no one has been able to deduce an instructional scheme or a curriculum or a strategy from psychological principles."

Consequently, the function of psychology is not to define how the individual can be taught, but to identify regions of strength or of weakness in the organization of the child's behavioral functioning, and to make these available for the development of appropriate instructional strategies which do not violate sound psychological principles. (Herbert Birch 1972)

What then are these sound psychological principles for which we search? These are certainly among the psychological principles which are generally accepted:

1. The consequences of behavior control behavior.

2. Attentiveness to the learning task (motivation) is controlled by the speed and schedule of the feedback we receive.

3. The level of difficulty of the learning task must be such that the learner can properly anticipate a high probability of positive feedback.

4. Tight control of educational material is critical to efficient learning.

5. Learning must be modular so that the student can know the results and direction of his learning.

6. Whatever is to be learned must be reinforced or rewarded.

These six principles can be joined together into a set which I have called Sutton's Law, named for Willie Sutton, the American bank robber. When Willie Sutton was asked why he robbed banks, he replied, "Because that's where the money is." These six learning principles are where the "teaching" money is -- Feedback (Principle 1) should be paced and immediate (Principle 2) and positive (Principle 3). This feedback should reinforce the appropriate stimulus conditions (Principle 4) in short learning modules (Principle 5). When these principles are not applied to a specific response, you cannot expect learning to occur (Principle 6). (S. Allan Cohen, 1973) Sutton's Law, thereby, tells us how to teach.

EDUCATION AND LEARNING DISABILITIES

And so, the responsibility of educating students falls to the educator who must gather from other disciplines that which will enrich and individualize the program for each student. From psychology comes principles of learning - Sutton's Law; from medicine - knowledge of development of the physical form; from reading - knowledge of the reading act in its complexity; from social work - an appreciate of the psycho-social factors which shape the context of learning; from speech and language - information about the development of language and symbolic competence and from special education itself a knowledge of how to arrange the educational situation so that teaching and learning occur together. How is this to be done? What are the bench marks of an effective teaching program? By what standard should we, as professionals, judge the quality of programming for the learning disabled child?

As you undoubtedly know, I am from 3M country--Minnesota Mining and Manufacturing Company, but what I propose is that special education for the learning disabled child--that the classroom where he is taught--carry this legend; that every teacher write this in capital letters across her lesson plans. THIS IS 5M COUNTRY - the 5M's are these:

1. MARK - a clear specification of the goal which is sought for each child.

2. METHODS - teaching strategies and alternate teaching strategies for reaching the mark.

3. MATERIALS - curriculum which is appropriate to the educational plan of action rather than that which may be available within the classroom.

4. MANAGEMENT - the presence of a humanistic application of the principles of learning and behavior management.

5. MEASUREMENT - the use of an appropriate feedback system for teachers and student which through its application will keep the educational plan of action on course, provide for course corrections if needed, and accurately and validly measure distance to the goal.

5M's - Mark, Method, Material, Management, Measurement, perhaps combined with a sixth M - money - is what effective programming for the LD child is.

To paraphrase an old song--put them all together, they spell TEACHER. If we do, then your children and mine will be the beneficiary of special education, in the best sense of that term.

Perhaps what I have said is best summarized by a limerick:

There once was a teacher
Whose principal feature
Was displayed in quite an odd way;
Students by millions
Or, possibly zillions
Surrounded her all of the day.

When finally seen
By an educational dean,
And asked how she managed this deed,
She raised three fingers
And said, "All you swingers,
Need only follow my lead.

To rise from a zero
To a big teaching hero
With these questions you'll strive:
Where am I going?
How will I get there?
And how will I know I've arrived?"